

VU Research Portal

Collaboration and innovation between heterogeneous actors

Hummel, J.T.

2019

document version

Publisher's PDF, also known as Version of record

[Link to publication in VU Research Portal](#)

citation for published version (APA)

Hummel, J. T. (2019). *Collaboration and innovation between heterogeneous actors*.

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal ?

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

E-mail address:

vuresearchportal.ub@vu.nl

6

Summary

Collaboration with actors outside organizational boundaries nowadays is facilitated through digital infrastructures and platforms. Collaboration is often between heterogeneous actors, involving actors from different fields including science, commercial, and public organizations, and of different sizes ranging from large intergovernmental research organizations to small- and medium-sized firms. However, while regularly heralded as promising, collaboration between heterogeneous actors is more easily said than done. Heterogeneity creates contradictions that make collaboration and innovation difficult. Three contradictions are central in this dissertation. First, when organizations open up innovation processes to collaborate with external heterogeneous actors this impairs the benefits they can reap from closed innovation. Second, organizations have to deal with the contradiction of needing centralized control to unite heterogeneous actors, but having to use decentralized control mechanisms to derive benefits from heterogeneity. Third, organizations face the difficulty that their collaborative goals are undermined by conflicting goals that emerge from their heterogeneous interests. This thesis sets out to answer the following research question: *How do collaborations between multiple organizational actors with heterogeneous backgrounds and interests organize and manage the contradictions they encounter?*

This thesis includes three self-contained chapters that relate to the three contradictions considered central to collaboration and innovation between heterogeneous actors. Chapter 2, a systematic literature review of 1,017 articles on open innovation, reports a dynamic understanding of the contradiction between open and closed innovation. First, the findings show that open innovation includes two dimensions: knowledge flows and system architectures. Opportunities for value creation are high when both dimensions are open, but opportunities for value appropriation are scarce. Second, the findings show that open innovation is not a unidirectional process towards increasingly open knowledge flows or system architectures. Rather, creating valuable innovations may require opening up both dimensions, but to capture value necessitates closing one down. For example, there are benefits to share knowledge in combination with an open system architecture, but to prevent fragmented external innovations requires closing down the system architecture over time. Hence, to benefit from open innovation requires closing down processes as well.

Chapters 3 and 4 report on a longitudinal qualitative field study of Helix Nebula – Europe’s leading science and commercial cloud computing initiative – which represents an example of a setting with open knowledge flows and open system architectures as described in Chapter 2. Chapter 3 focuses on how heterogeneous organizations work together to develop an infrastructure

of common technical and organizational resources. Common resources are objects, assets, arrangements, or artifacts that have shared ownership and facilitate future collaboration. The findings show that the development of common resources does not contain a single, homogeneous trajectory. Rather, it includes iterative forking (i.e. splitting) and merging (i.e. getting back together) of emergent common resource options and micro-alliances over time. These micro-alliances consist of decision-making and endorsing actors, and this structure allows for agreement to be found without having to involve all actors. Micro-alliances are an interesting contribution to our understanding of interorganizational collaboration, because they cannot be designed but emerge and dissolve where needed. Chapter 3 further shows how alternating between forking and merging is important to accommodate both the differences and dependencies that exist between heterogeneous actors. This process involves iterations between consensus and dissensus across interdependent common resources.

Chapter 4 reports on the important role of language and communication in managing the contradiction of collaborative and conflicting goals. When heterogeneous organizations discuss future collaborative actions, conceptualizing goals using new popular concepts, vague language, and tentative terms enables actors to construe how their conflicting goals can be realized; thereby postponing conflict. As actors move to discussing present collaborative actions, contextualizing of goals is important. By establishing a specific, relative, or increased context around goals, organizations postpone conflict, and resolve it when they are able to recognize that conflicting goals are a necessary part of realizing collaborative goals.

This thesis contributes to research on open innovation, interorganizational collaboration, and digital infrastructures and platforms. The findings show the value of a dynamic perspective on organizing and managing contradictions in collaborations between heterogeneous actors. Oscillating between open and closed innovation, alternating between the benefits of centralized and decentralized control, and over time perceiving collaborative and conflicting goals as mutually enabling facilitates collaboration and innovation between heterogeneous actors.

This thesis has practical implications for organizations involved in collaborations with actors that have heterogeneous backgrounds and interests. First, managers that open innovation processes to external involvement should also decide how, when, and which innovation processes to close. Second, flexibly forming and dissolving micro-alliances can be key to working together with heterogeneous organizations, for example in developing an infrastructure of common

technical and organizational resources that enables future collaboration. Finally, managers are encouraged to reflect on the role of language in communicating their goals when collaborating with heterogeneous organizations. Using conceptual language when discussing future goals, and contextualizing present goals, can prevent conflict from derailing collaboration.